

Anderson 6-17-18-166-3

IN THE CLAIMS:

1. - 18. *cancelled*

19. *(currently amended)* An ionized metal plasma (IMP) system for fabricating coating vias in an integrated circuit with a metallic lining layer, the system comprising:  
a pedestal ~~having~~ including an active cooling arrangement, the pedestal for supporting; at least one semiconductor wafer ~~on the pedestal, wherein the wafer comprises~~ including at least one via adjacent to overlying an interlevel metal interconnect;

an a low temperature ionized plasma generating tool for low temperature depositing of the metallic lining within the via; and

a source of material to form a the coating lining the via, the source operating in conjunction with the low temperature ionized plasma generating tool to deposit a low temperature lining within at least one via;

wherein the active cooling arrangement system keeps the interconnect temperature of the interlevel metal interconnect below the temperature at which the interconnect transits from tensile to compressive stress thereby preventing interconnect extrusions into the via.

20. *(currently amended)* The system of Claim 19 wherein the interlevel metal interconnect is selected from the group consisting of: aluminum, aluminum alloys, copper and copper alloys.

21. *(currently amended)* The system of Claim 19 wherein the active cooling arrangement comprises a system for transferring heat from the interlevel metal interconnect to a medium flowing through the pedestal.